

ABSTRACT OF THE DISCLOSURE

A device for performing numerical value conversion of a digital input value in a first unit to a second unit being a natural unit includes a look-up table storing an array of coefficients for performing the numerical value conversion. The look-up table is indexed using a first parameter to provide a selected coefficient. An arithmetic logic unit (ALU) is coupled to receive the digital input value and the selected coefficient and perform the numerical value conversion based on a first equation using the selected coefficient to compute a digital output value in the second unit. The first unit can be an arbitrary ADC unit and the second unit is a natural unit of physical measurement, such as volts, amperes, degree Centigrade. Furthermore, the device can be used to perform numerical value conversion from the arbitrary unit to the natural unit having a linear or a non-linear relationship.